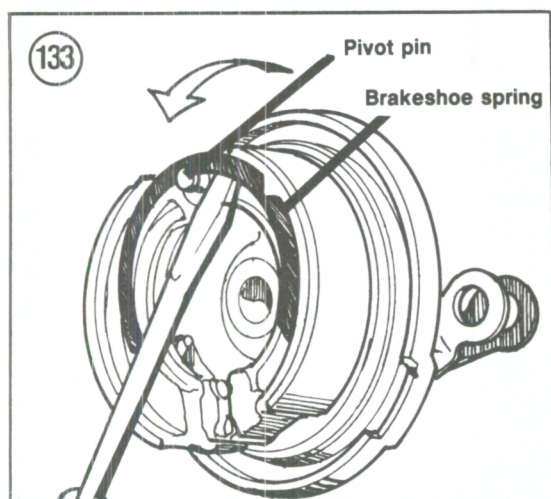
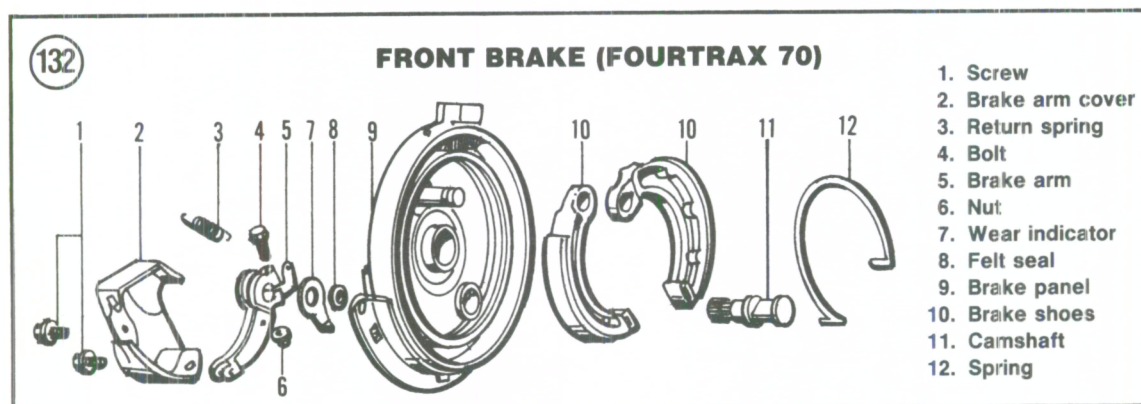


## CHAPTER NINE

## BRAKES



## FRONT DRUM BRAKE

## Disassembly (Fourtrax 70)

Refer to **Figure 132** for this procedure.

1. Remove the front wheels as described in this supplement.
2. Remove the cotter pin and axle nut. Discard the cotter pin.

**WARNING**

*Do not inhale brake dust. It may contain asbestos, which can cause lung injury and cancer.*

3. Pull the brake drum straight off the brake shoes and brake panel.

4. If reinstalling the existing brake shoes, mark them "F" (front) or "R" (rear) prior to removal so they will be installed in their original position.
5. Use a wide-blade screwdriver and remove the brake shoe return spring (**Figure 133**) up and off the anchor pin.

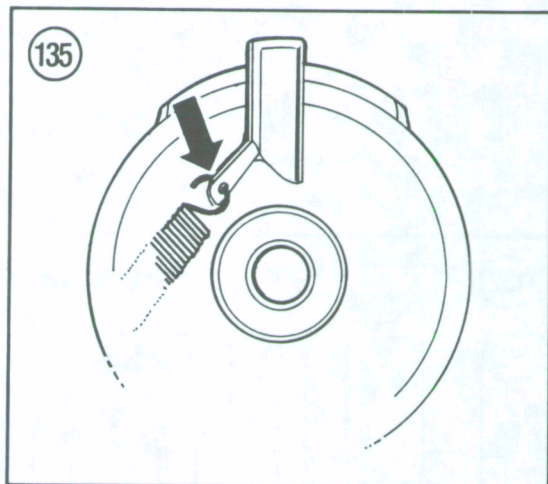
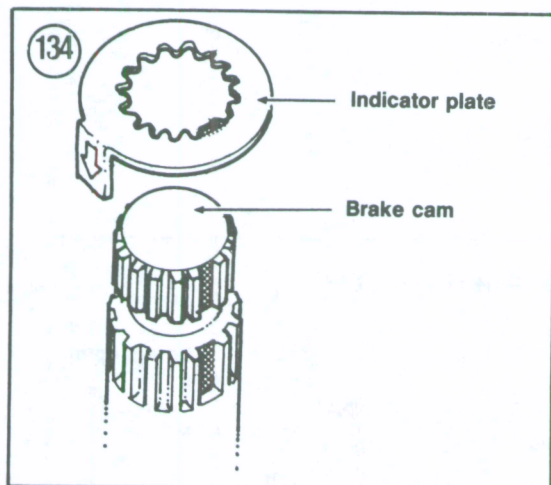
**NOTE**

*Place a clean shop rag on the linings to protect them from oil and grease during removal.*

6. Remove the return spring from the holes in the shoes and remove the shoes from the pivot pin.
7. Remove the screws securing the brake arm cover and remove the cover.
8. Move the brake arm back to the applied position and disconnect the brake cable from the brake arm.
9. Slide the brake panel straight off the steering knuckle assembly.
10. Unhook the return spring from the brake arm.
11. Loosen the bolt securing the brake lever to the camshaft.
12. Remove the lever, wear indicator and felt seal.
13. Remove the camshaft.
14. Inspect the brake components as described in this supplement.

**Assembly**

1. Grease the cam and anchor pin with a light coat of molybdenum disulfide grease; avoid getting any grease on the brake plate where the linings come in contact with it.

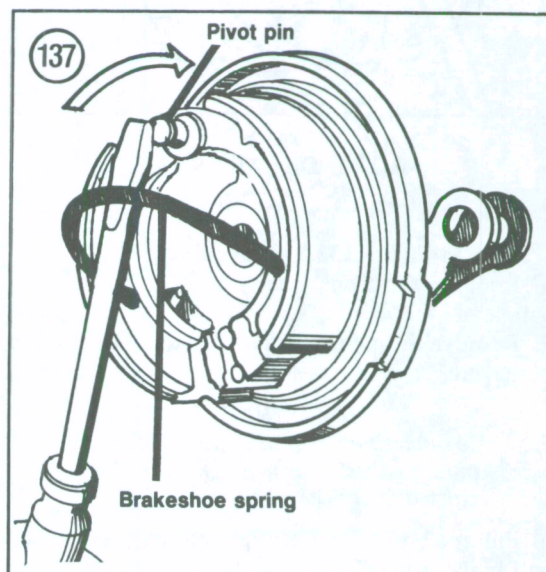
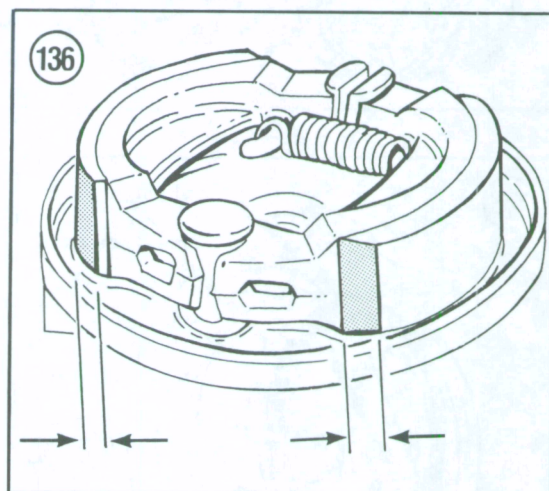


2. Install the camshaft into the brake panel.
3. Soak the felt seal in clean engine oil and install the felt seal.
4. Align the tab on the wear indicator with the groove in the camshaft (**Figure 134**).
5. Align the punch marks on the brake lever and camshaft and install the brake lever. Push the lever all the way down and tighten the bolt and nut to 4-7 N•m (3-5 ft.-lb.).
6. Install the return spring onto the brake lever and onto the tab on the brake panel as shown in **Figure 135**.
7. Install the brake panel straight onto the steering knuckle assembly. Align the recess in the backside of the brake panel with the tab on the steering knuckle. This is necessary for proper brake operation.
8. Move the brake arm back to the applied position and connect the brake cable onto the brake arm.
9. Install the brake arm cover and align the cover tab with the brake panel groove. Install the screws and tighten securely.
10. If reinstalling the existing brake shoes, refer to marks made during disassembly and install the shoes in their original position.

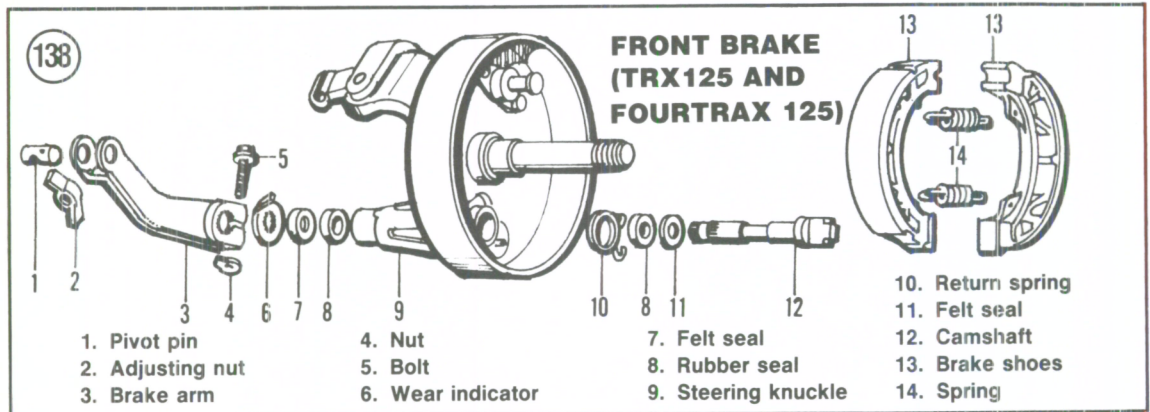
#### NOTE

*If new linings are being installed, file off the leading edge of each shoe a little (**Figure 136**) so the brake will not grab when applied.*

11. Install the brake shoes onto the pivot pin and push against the camshaft. Install the brake shoe spring into the hole in each brake shoe.
12. Place a broad tipped screwdriver under the brake shoe spring and place the tip of the screwdriver on the pivot pin.







### Disassembly (TRX125 and Fourtrax 125)

Refer to **Figure 138** for this procedure.

1. Remove the front wheel as described in this supplement.
2. Remove the cotter pin and axle nut (**Figure 139**).

#### WARNING

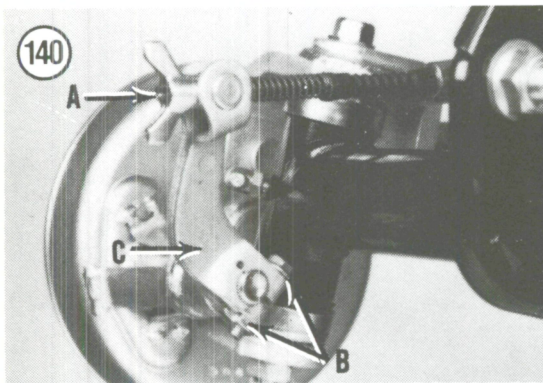
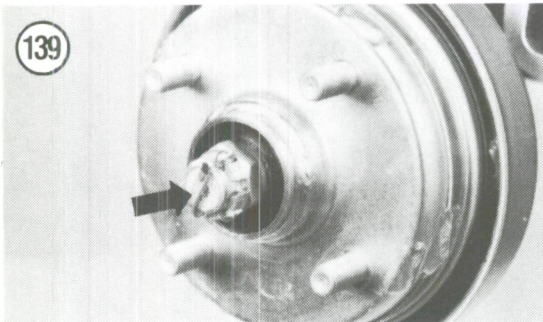
*Do not inhale brake dust. It may contain asbestos, which can cause lung injury and cancer.*

3. Pull the brake drum straight off the brake shoes and brake panel.
4. If reinstalling the existing brake shoes, mark them "F" (front) or "R" (rear) prior to removal so they will be installed in their original position.
5. Remove the brake shoes from the backing plate by firmly pulling up on the center of each shoe.

#### NOTE

*Place a clean shop rag on the linings to protect them from oil and grease during removal.*

6. Remove the return springs and separate the shoes.
7. Completely unscrew the adjusting nut (A, **Figure 140**) from the brake cable and brake arm.
8. Remove the bolt and nut (B, **Figure 140**) securing the brake lever to the cam.
9. From the backside of the brake panel, remove the brake lever (C, **Figure 140**) and wear indicator. Remove the felt seal and rubber seal from the recess in the brake panel.
10. From the front side of the brake panel, remove the camshaft, washer and return spring (A, **Figure 141**). Remove the felt seal from the recess in the brake panel.
11. Inspect the brake components as described in this supplement.



13. Pivot the screwdriver up until the spring slides off the screwdriver blade and onto the backside of the pivot pin (**Figure 137**). Remove the screwdriver.

14. Slide the brake drum straight onto the brake shoes and brake panel.

15. Install the axle nut and tighten to the torque specification listed in **Table 17**. Install a new cotter pin and bend the ends over completely.

16. Install the front wheels as described in this supplement.

17. Adjust the front brake as described in this supplement.



**Assembly****(TRX125 and Fourtrax 125)**

1. Onto the front side of the brake panel, perform the following:
  - a. Soak the felt seal in clean engine oil and install the felt seal into the recess in the brake panel.
  - b. Install the camshaft, washer and return spring (**Figure 141**).
  - c. Locate the end of the return spring (**Figure 142**) onto the raised tab on the brake panel.
2. Onto the back side of the brake panel, perform the following:
  - a. Soak the felt seal in clean engine oil.
  - b. Install the rubber seal, then the felt seal into the recess in the brake panel.
  - c. Align the tab on the wear indicator with the groove in the camshaft (**Figure 134**) and install the wear indicator.
3. Align the punch marks on the brake lever and camshaft (**Figure 143**) and install the brake lever. Push the lever all the way down and tighten the bolt and nut securely.
4. Grease the camshaft and pivot post (A, **Figure 144**) with a light coat of molybdenum disulfide grease; avoid getting any grease on the brake plate where the linings come in contact with it.

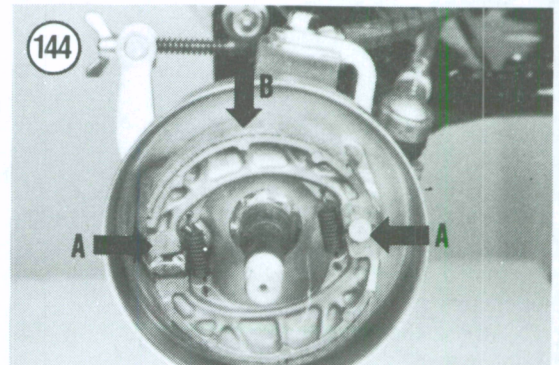
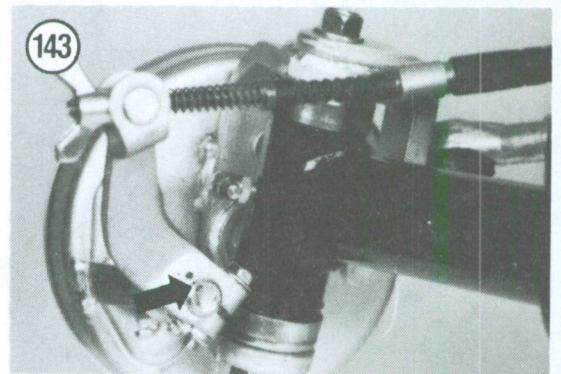
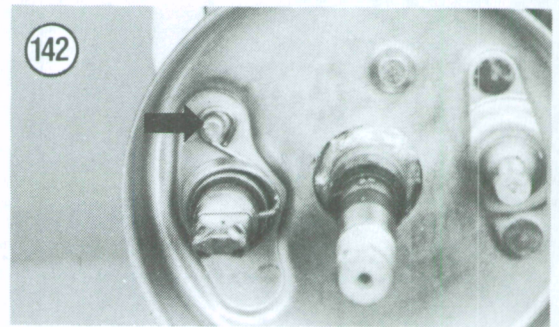
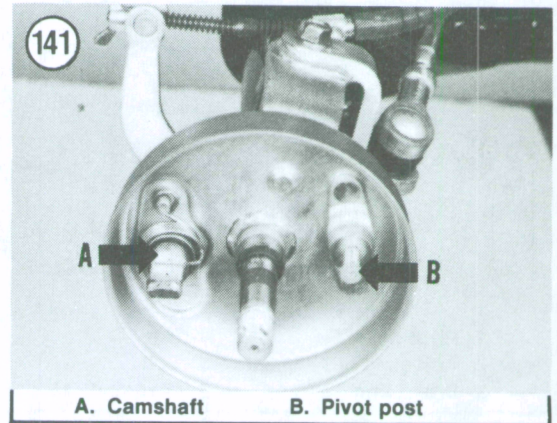
**NOTE**

*If new linings are being installed, file off the leading edge of each shoe a little (**Figure 136**) so that the brake will not grab when applied.*

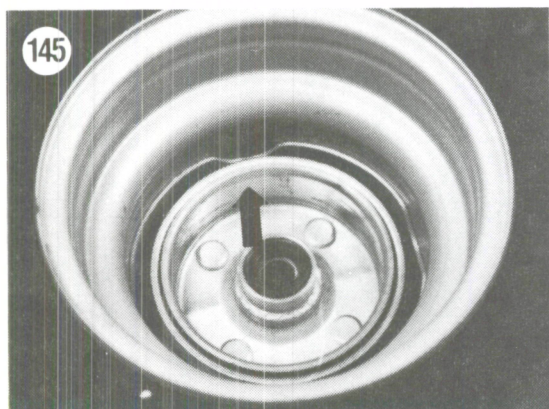
5. If reinstalling the existing brake shoes, refer to marks made during disassembly and install the shoes in their original position.
6. Hold the brake shoes in a "V"-formation with the return springs attached and snap them in place on the brake backing plate. Make sure they are firmly seated on the backing plate (B, **Figure 144**).
7. Slide the brake drum straight onto the brake shoes and brake panel.
8. Install the axle nut and tighten to the torque specification listed in **Table 17**. Install a new cotter pin and bend the ends over completely.
9. Install the front wheels as described in this supplement.
10. Adjust the front brake as described in this supplement.

**Drum Brake Inspection**

1. Thoroughly clean and dry all parts except the linings.
2. Check the contact surface of the drum (**Figure 145**) for scoring. If there are grooves deep enough



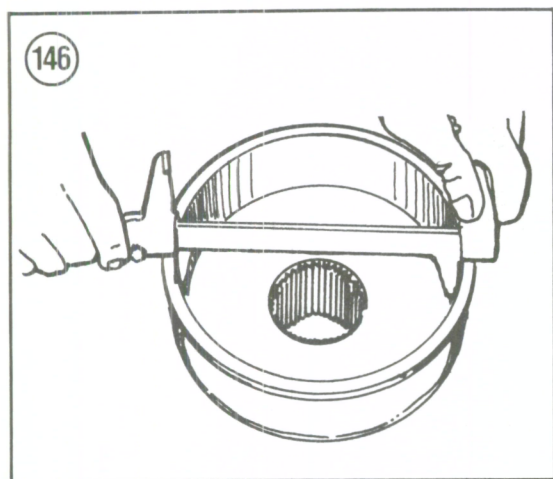




to snag a fingernail, the drum should be reground and new shoes fitted. This type of wear can be avoided to a great extent if the brakes are disassembled and thoroughly cleaned after riding the vehicle in water, mud or deep sand.

#### NOTE

*If oil or grease is on the drum surface, clean it off with a clean rag soaked in lacquer thinner—do not use any solvent that may leave an oil residue.*



3. Use a vernier caliper (**Figure 146**) and check the inside diameter of the drum for out-of-round or excessive wear. Turn the drum if it will still be within the service limit dimension. Replace the drum if it is worn to the service limit listed in **Table 19** or greater.

4. If the drum is turned, the linings will have to be replaced and the new linings arced to the new drum contour.

5. Inspect the linings for imbedded foreign material. Dirt can be removed with a stiff wire brush. Check for traces of oil or grease. If they are contaminated, they must be replaced.

6. Measure the brake linings with a vernier caliper (**Figure 147**). They should be replaced if worn to the service limit (distance from the metal backing plate) listed in **Table 19**.

7. Inspect the camshaft lobe and the pivot pin area of the shaft for wear and corrosion. Minor roughness can be removed with fine emery cloth.

8. Inspect the brake shoe return springs for wear. If they are stretched, they will not fully retract the brake shoes from the drum, resulting in a power-robbing drag on the drums and premature wear of the linings. Replace as necessary and always replace as a pair.

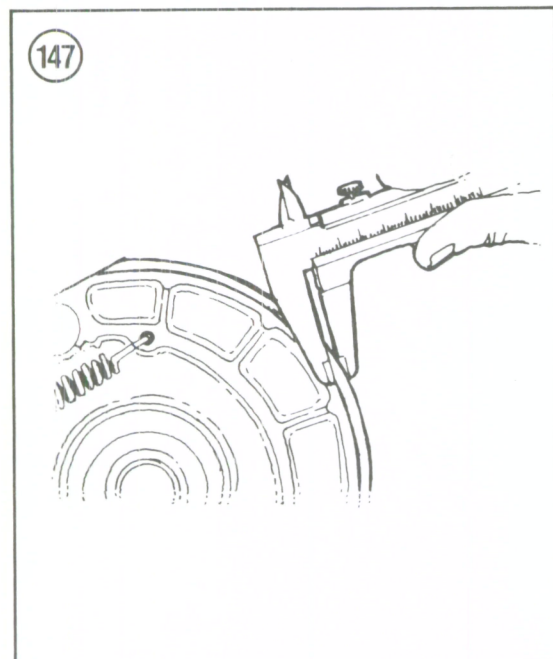
9. Inspect the bearings in the brake drum as described under *Front Hub/Brake Drum* in this supplement.

### REAR BRAKE (FOURTRAX 70)

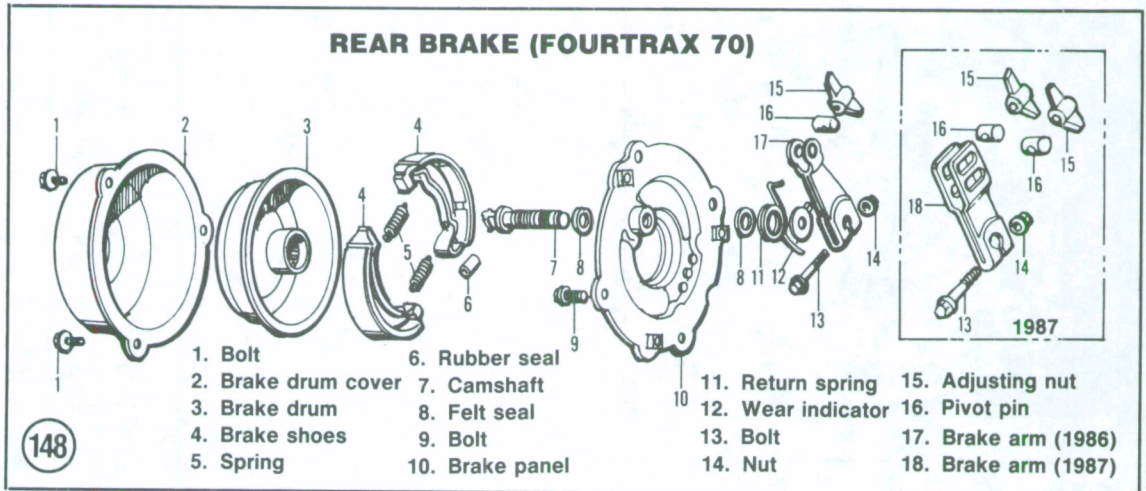
The rear brake is basically the same as that used on the 1978-on ATC70. Follow the procedure for the 1978-on ATC70 in Chapter Nine in the main body of this book and refer to **Figure 148**.

### FRONT DRUM BRAKE CABLES

Brake cable adjustment should be checked periodically, as the cable stretches with use and increases brake lever free play. Free play is the distance that the brake lever travels between the







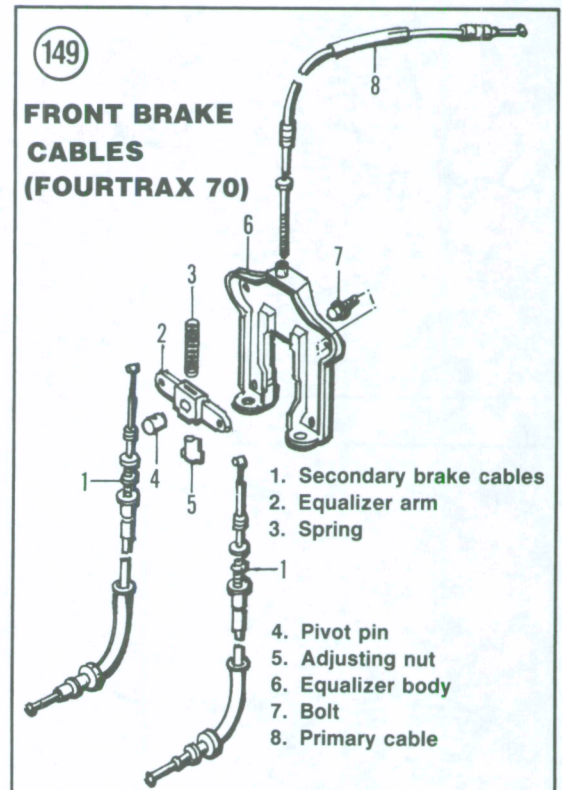
released position and the point when the brake shoes come in contact with the drum.

If the brake adjustment, as described in the Chapter Three section of this supplement, can no longer be achieved the cable(s) must be replaced.

#### Front Brake Cable Replacement (Fourtrax 70)

Refer to **Figure 149** for this procedure.

1. Place the ATV on level ground and set the parking brake. Block the wheels so the vehicle will not roll in either direction.
2. Remove the front fender as described in this supplement.
3. Remove both front wheels as described in this supplement.
4. To remove the primary brake cable, perform the following:
  - a. Remove the screw securing the front brake lever to the boss on the right-hand side of the handlebar.
  - b. Disconnect the brake cable from the brake lever.
  - c. Completely unscrew the adjusting nut from the lower end of the brake cable at the equalizer arm.
  - d. Remove the pivot pin from the equalizer arm and withdraw the brake cable from the equalizer arm. Don't lose the spring on the end of the cable.

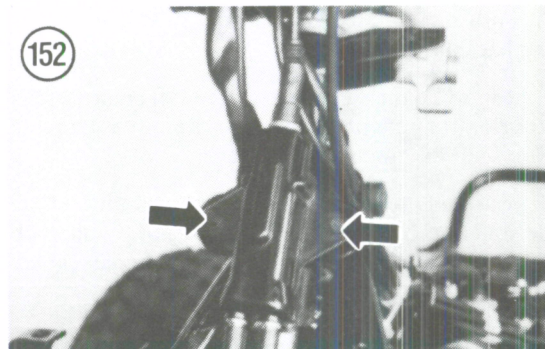
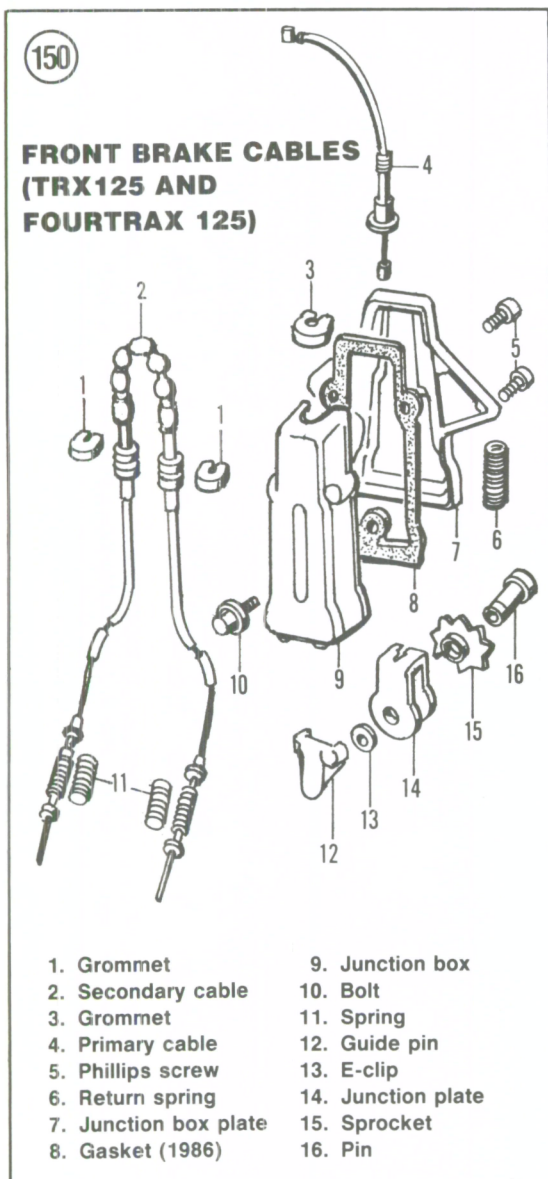


#### NOTE

*Prior to removing the cable, make a drawing (or take a Polaroid picture) of the cable routing through the frame. It is very easy to forget once it has been removed. Replace it exactly as it was, avoiding any sharp turns.*

- e. Remove the primary brake cable from the top of the equalizer body and the frame.



**NOTE**

There are two secondary brake cables and they may be replaced individually or as a pair. If the ATV has been ridden hard or has a lot of miles on it, replace both cables as a pair.

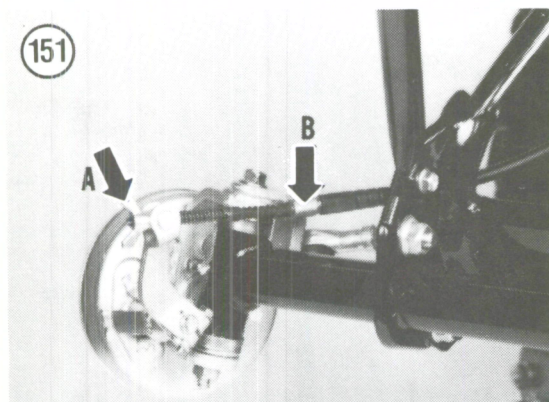
5. To remove the secondary brake cable(s), perform the following:
  - a. At the brake panel on the wheel, move the brake arm back to the applied position and disconnect the brake cable from the brake arm. If necessary, repeat for the other brake assembly.
  - b. Loosen the locknuts and adjusting nut and disconnect the secondary brake cable(s) from the equalizer arm.
  - c. Remove the brake cable(s).
6. Install by reversing these removal steps, noting the following.
7. Lubricate the new cable as described under *Control Cables* in Chapter Three in the main body of this book.
8. Adjust the brakes as described in this supplement.

10

### Front Brake Cable Replacement (TRX125 and Fourtrax 125)

Refer to **Figure 150** for this procedure.

1. Place the ATV on level ground and set the parking brake. Block the wheels so the vehicle will not roll in either direction.
2. Remove the front fender as described in this supplement.
3. Remove both front wheels as described in this supplement.
4. Completely unscrew the adjusting nut (A, **Figure 151**) from the brake cable and brake arm.
5. Withdraw the brake cable from the brake arm.
6. Remove the brake cable from the bracket (B, **Figure 151**) on the steering knuckle.
7. Remove the bolts (**Figure 152**) securing the junction box to the frame.





8. Turn the junction box around to gain access to the backside of the box.

9. Remove the Phillips screws (**Figure 153**) securing the junction box plate. Remove the plate and on 1986 models the gasket.

10. Carefully pull the brake cable assembly out of the junction box (**Figure 154**). Do not damage or lose the rubber grommets on the brake cables where they enter the junction box.

11. Remove the guide pin from the junction plate.

12. Remove the E-clip from the pin.

13. Push the pin out of the sprocket. Remove the sprocket and secondary brake cable assembly from the junction plate.

14. Remove the secondary brake cable assembly from the frame.

15. If necessary, compress the spring at the end of the primary brake cable and remove the cable from the junction plate. Don't lose the return spring.

#### NOTE

*Prior to removing the cable, make a drawing (or take a Polaroid picture) of the cable routing through the frame. It is very easy to forget once it has been removed. Replace it exactly as it was, avoiding any sharp turns.*

16. Remove the primary brake cable from the brake lever on the right-hand side of the handlebar. Remove the brake cable from the frame.

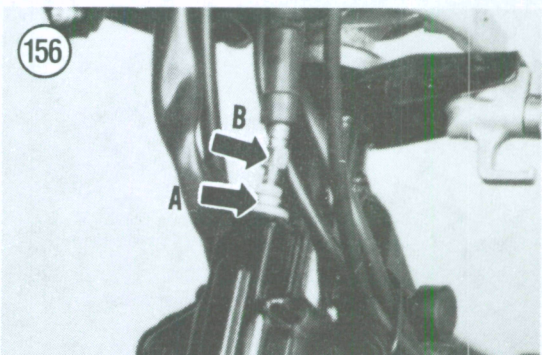
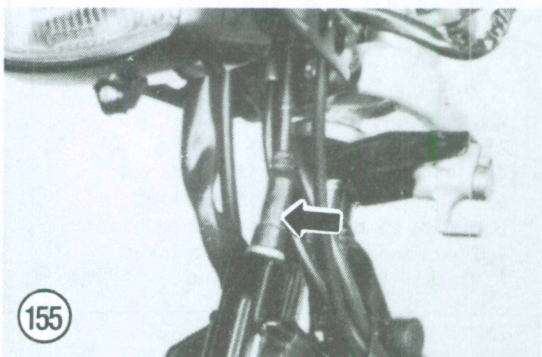
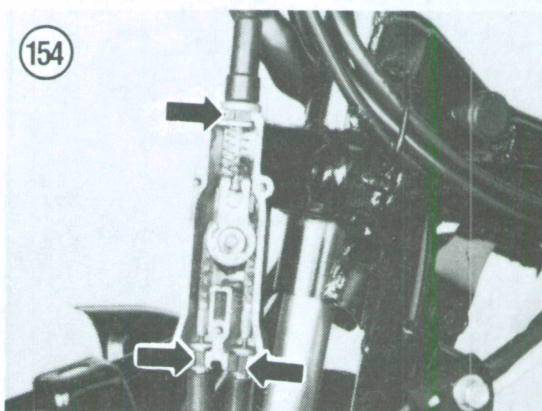
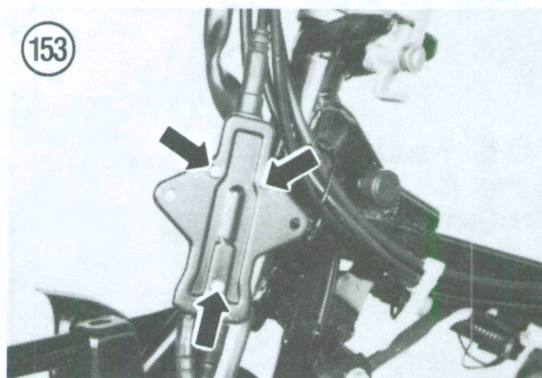
17. Install by reversing these removal steps, noting the following.

18. After new brake cables are installed, a preliminary adjustment must be performed prior to attaching the junction box plate and reinstalling the junction box onto the frame. At this time perform *New Brake Cable Preliminary Adjustment, TRX125 and Fourtrax 125* in this supplement.

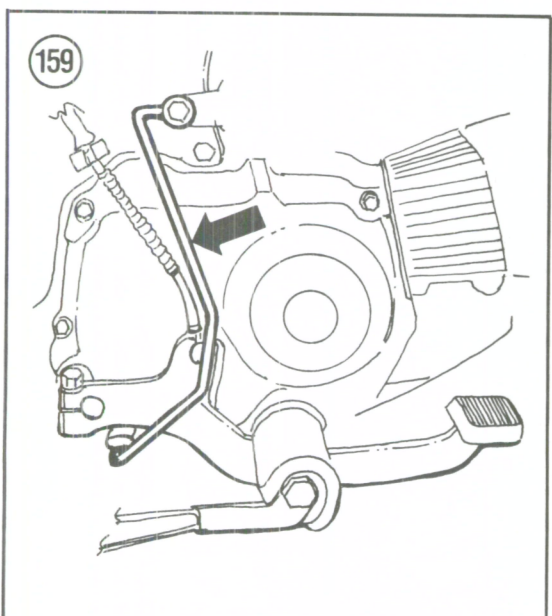
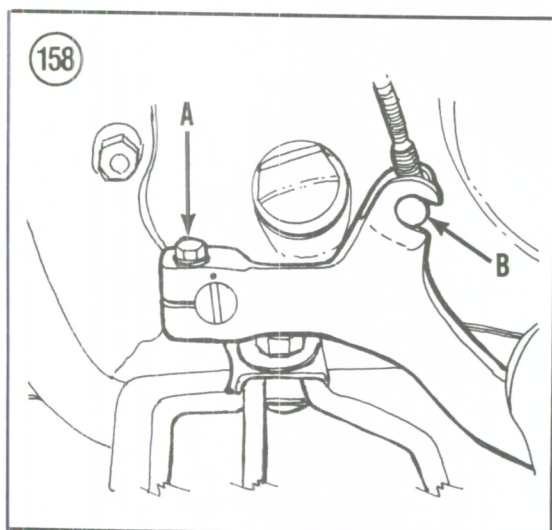
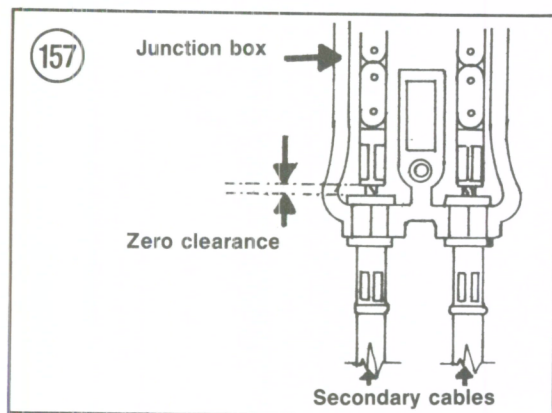
19. Apply a coat of multipurpose grease to the sprocket, guide pin and the interior groove in the junction box cover prior to installation.

20. Lubricate the new cable as described under *Control Cables* in Chapter Three in the main body of this book.

21. Perform the final brake adjustment (mainly a free-play adjustment) as described in the Chapter Three section of this supplement.







### New Brake Cable Preliminary Adjustment (TRX125 and Fourtrax 125)

1. Slide the dust cover (Figure 155) up on the primary brake cable.
2. Loosen the locknut (A, Figure 156) on the primary brake cable adjuster.
3. Turn the cable adjuster (B, Figure 156) *clockwise* all the way down to the junction box.
4. Turn both brake adjusting nuts (A, Figure 151) on the brake arms until there is zero clearance between both secondary brake cable ends and the junction box (Figure 157).
5. Again turn both brake adjusting nuts (A, Figure 151) on the brake arms until both front wheels are locked by the brakes.
6. Turn the cable adjuster (B, Figure 156) *counterclockwise* until there is zero free play at the brake lever on the handlebar.
7. From this point, turn the cable adjuster *counterclockwise* an additional 2 1/2 turns and tighten the locknut (A, Figure 156).
8. On 1986 models, install a new gasket on the cover plate.
9. Loosen both brake adjusting nuts (A, Figure 151) an equal number of turns until the brake arms have 3 mm (1/8 in.) of free play.
10. Check the brake lever free play as described in the Chapter Three section of this supplement.

### REAR BRAKE PEDAL (1987 FOURTRAX 70)

#### Removal/Installation

1. Place the vehicle on level ground and block the front wheels so the vehicle will not roll in either direction.
2. Remove the bolts securing the rear brake cable guard (Figure 159).
3. Loosen the *lower* adjustment nut on the brake cable. This is to allow slack in the cable.
4. Remove the bolt (A, Figure 158) securing the brake pedal to the pivot shaft.
5. Remove the brake pedal from the pivot shaft.
6. Disconnect the cable (B, Figure 158) from the brake pedal and remove the pedal.
7. Install by reversing these removal steps, noting the following.
8. Align the punch mark on the pivot shaft with the brake pedal and install the pedal. Install and tighten the bolt to 24-30 N•m (17-2 ft.-lb.).
9. Adjust the rear brake as described in this supplement.

Table 19 FRONT WHEEL BRAKE SPECIFICATION (4-WHEEL MODELS)\*

Item	Specification	Wear limit
Brake drum ID		
70 cc	85.0 mm (3.35 in.)	86.0 mm (3.38 in.)
125 cc	110 mm (4.3 in.)	111 mm (4.4 in.)
Front brake lining thickness		
70 cc	3.0 mm (0.12 in.)	1.5 mm (0.06 in.)
125 cc	4.0 mm (0.2 in.)	2.0 mm (0.1 in.)

\* Rear brake specifications are the same as previous models of the same engine displacement.

## CHAPTER ELEVEN

## BODY (4-WHEEL MODELS)

This chapter was not included for previous models and is added to cover the more complicated fender assemblies on the 4-wheel models.

### Front Fender and Front Carry Handle (Fourtrax 70)

#### Removal/Installation

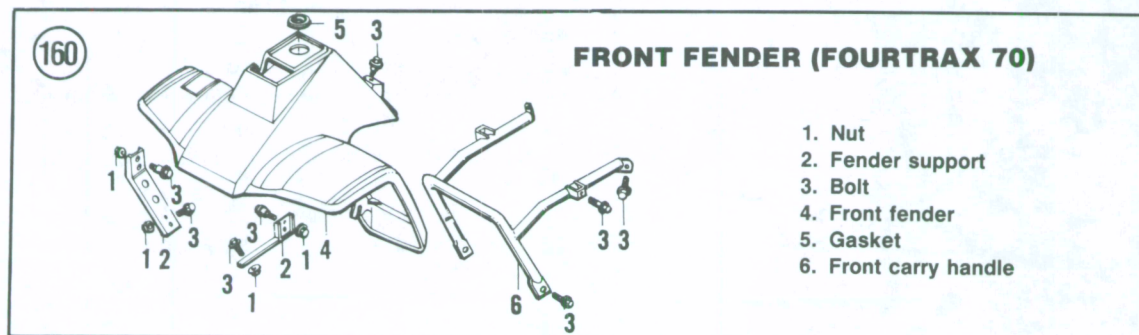
Refer to **Figure 160** for this procedure.

#### NOTE

*Special bolts are used to attach the front fender to the frame. These bolts have a shoulder that stops the bolt against the metal frame without putting excess pressure on the plastic fender. Do not substitute another type of bolt or the bolt holes in the plastic fender may be fractured if the bolt is overtightened.*

1. Place the ATV on level ground and set the parking brake.
2. Remove the bolts and nuts securing the rear fender to the foot peg guard on each side.

3. From under the seat, remove the bolts securing the seat/rear fender assembly to the frame.
4. Pull the seat/rear fender assembly up and toward the rear.
5. Remove the handlebar assembly as described in this supplement.
6. From within the wheel well housing, remove the bolts and nuts securing the front fender to the front carry handle and to the fender supports on each side.
7. Remove the fuel filler cap and cover the opening with duct tape.
8. Remove the bolts securing the rear portion of the front fender to the frame next to the fuel tank.
9. Carefully pull the front fender assembly up and off the frame.
10. To remove the front carry handle, remove the bolts securing the front carry handle to the frame and remove the front carry handle.





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